

The Maine Department of Transportation (MaineDOT) and the Federal Highway Administration (FHWA) have undertaken the Interstate 395/Route 9 transportation study to identify a regional solution that would improve transportation-system linkage, safety, and mobility between I-395 and Route 9 along Routes 1A and 46, and to improve the current and future flow of traffic and the shipment of goods to/from the Interstate system in southern Penobscot County, Maine (exhibits S.1 and S.2). The U.S. Environmental Protection Agency, U.S. Fish & Wildlife

“Cooperating agency” means any Federal agency other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment. A state or local agency of similar qualifications...may by agreement with the lead agency become a cooperating agency (40 CFR 1508.5).

Service, U.S. Army Corps of Engineers, National Oceanic and Atmospheric Administration–National Marine Fisheries Service, Maine Department of Environmental Protection, and Maine Historic Preservation Commission acted as cooperating agencies for the study.

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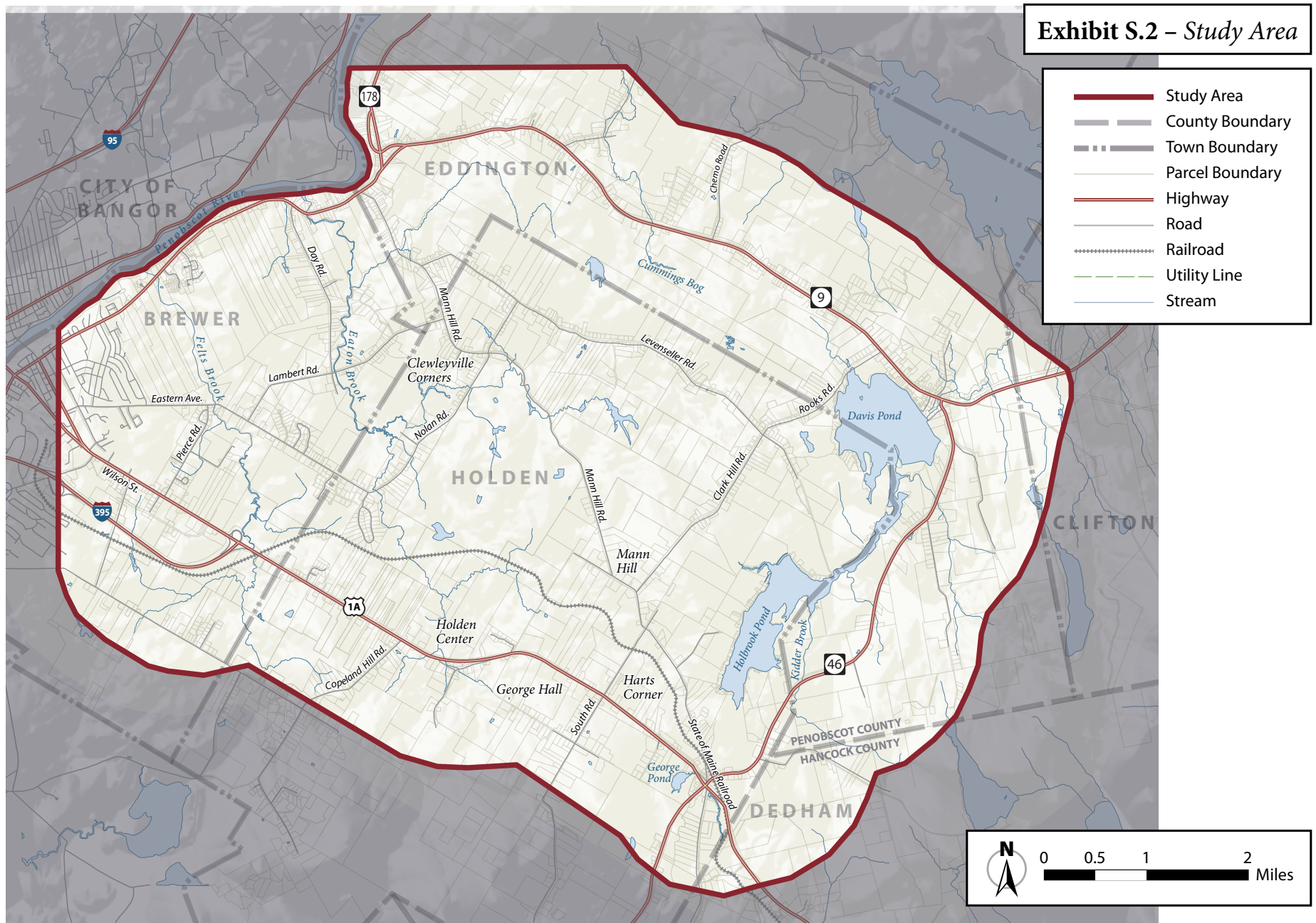
Areas of Controversy

Issues to Be Resolved

Exhibit S.1 – Location Map



I-395/Route 9 Transportation Study Environmental Impact Statement



The opening of I-395, the State of Maine's east–west highway initiative, and the creation of the federal National Highway System (NHS) established the impetus for this study.

Purpose

The purposes of the I-395/Route 9 Transportation Study are to (1) identify a section of the NHS in Maine from I-395 in Brewer to Route 9, consistent with the current American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets*; (2) improve regional system linkage; (3) improve safety on Routes 1A and 46; and (4) improve the current and future flow of traffic and the shipment of goods to the Interstate system. The logical termini of the project was identified and defined as (1) I-395 near Route 1A and (2) the portion of Route 9 in the study area.

In accordance with Section 404 of the Clean Water Act (CWA), the U.S. Army Corps of Engineers (USACE) is required to prepare a basic purpose statement to determine compliance with the CWA section 404(b) (1) guidelines. Accordingly, the USACE determined that the basic project purpose “...is to provide for the safe and efficient flow of east-west traffic and shipment of goods from Brewer (I-395) to Eddington (Route 9), Maine, for current and projected traffic volumes.”

Needs

The need (i.e., the problem) for transportation improvements is based on poor roadway geometry in the study area combined with an increase in local and regional commercial and passenger traffic that has resulted in poor system linkage, safety concerns, and traffic congestion.

Poor System Linkage

Vehicles traveling through the study area from I-395 to Route 9 generally proceed from I-395 to Routes 1A, 46, and 9 — a path that has abrupt transitions in travel speed, roadway geometry, and capacity, as follows:

- I-395 is a principal arterial highway between I-95 in Bangor and Route 1A in the study area. I-395 is a controlled-access highway with two eastbound and two westbound lanes separated by an approximate 50-foot grass median. It connects to Route 1A in Brewer with a partial cloverleaf interchange. I-395 has a posted speed of 55 miles per hour (mph) and has a paved shoulder approximately 10 feet wide.
- Route 1A is a principal arterial highway connecting the greater Bangor and Brewer area with Ellsworth and the coast at Bar Harbor. West of the I-395 interchange, Route 1A has two eastbound lanes and two westbound lanes.

East of the I-395 interchange, Route 1A has one eastbound lane, one westbound lane, and a center turn lane from Brewer to approximately 1.3 miles east of the I-395 interchange. The remainder of Route 1A in the study area and to the coast has one eastbound and one westbound lane with no center turn lane. Access to Route 1A from its adjacent properties is not controlled and is subject to the state's rules on access management. Route 1A in the study area is posted at 25 to 45 mph, depending on location, and has a paved shoulder approximately 6 feet wide. The land uses adjacent to Route 1A in the study area are primarily commercial and residential with some undeveloped and underdeveloped areas. Over time, the areas adjacent to Route 1A are becoming increasingly more commercial.

- Route 46 is a two-lane collector road connecting Route 1A to Route 9. Access to Route 46 from adjacent properties is not controlled and is subject to the Maine's rules on access management. Portions of Route 46 are steep and exceed the State of Maine's design criteria. Route 46 is posted at 35 or 45 mph and has a gravel shoulder approximately four feet wide. The land cover adjacent to Route 46 is primarily mature forested areas with scattered residences and open areas. Approaching Route 9, the land uses

adjacent to Route 46 are primarily residential. Because of the mature forest canopy, considerable portions of Route 46 are shaded, and snow and ice cover does not melt rapidly.

- Route 9 is a two-lane principal arterial highway connecting the greater Bangor and Brewer area with Washington County and the Canadian Maritime Provinces to the east. Access to Route 9 from its adjacent properties is not controlled and is subject to Maine's rules on access management. Route 9 is posted at 35 or 55 mph with some school zones, depending on location in the study area, and has a paved shoulder approximately eight feet wide. The land uses adjacent to Route 9 in the study area are primarily commercial and residential with some undeveloped and underdeveloped areas. Over time, the areas adjacent to Route 9 are becoming increasingly more developed. To the east of the study area, the land uses and land cover adjacent to Route 9 quickly become less developed and more forested, and the speed limit increases to 55 mph. Most of the land adjacent to Route 9 east of the study area to the Canadian border is undeveloped.

The portions of Routes 1A and 46 in the study area do not provide a high-speed, controlled-access arterial

highway between I-395 and Route 9 to the east. These two roads do not provide an operationally efficient transportation facility for regional connectivity and mobility through the study area. The results of these deficiencies in system linkage are safety concerns, delays in passenger and freight movement, and conflicts between local and regional traffic.

Safety Concerns

Locations in the study area exhibit higher crash rates than other locations in Maine with similar characteristics. Data were collected and analyzed to identify high crash locations (HCLs) using a critical rate factor (CRF). The CRF of an intersection or roadway section is a statistical measure of that location's crash history as compared to locations with similar geography, traffic volume, and geometric characteristics. When a CRF exceeds 1.00, the intersection or portion of a roadway has a higher-than-expected crash rate. Those locations with a CRF higher than 1.00 and more than eight crashes in a three-year period are considered HCLs. Data were collected and analyzed to identify HCLs in the study area. MaineDOT crash data for January 2004 through December 2008 indicate 10 HCLs that meet the criteria in the study area. The majority of crashes occurred on clear days with dry road conditions.

Traffic Congestion

Since the extension of I-395 from Bangor to Route 1A in 1987, traffic volumes in the study area have increased steadily. This growth has been most pronounced along Route 46 between Routes 1A and 9, which has become more widely used by both passenger vehicles and trucks as a connection among I-95, I-395, and Route 9. Much of the truck traffic in the study area is through-traffic. Most of the truck trips are between the Canadian Maritime Provinces and Washington County at the eastern end, and Penobscot County and the New England states at the western terminus of the trips. Approximately 80 percent of truck traffic on Route 9 uses Route 46, and approximately five of six heavy trucks that use Routes 46 and 1A also use I-395. Route 46 south of Route 9 exhibited the greatest annual growth rate (i.e., annual growth factor of 1.121) in heavy-truck traffic between 1983 and 1996 of all roads in the greater Bangor area.

Estimates of the current and future annual average daily traffic (AADT) for all vehicles and heavy trucks were determined based on MaineDOT traffic count data (exhibit S.3). With the recent economic downturn and increase in the price of gas, traffic in the study area has not grown as fast as previously thought. The MaineDOT and FHWA believe the growth in traffic and traffic volumes originally forecast for the study area for the year 2030 won't materialize until the year

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Exhibit S.3 – Existing and Future Traffic

<i>Location</i>	<i>1998 AADT</i>	<i>2006 AADT</i>	<i>2010 AADT</i>	<i>2035 AADT</i>	<i>2010 Truck AADT</i>	<i>2035 Truck AADT</i>	<i>% Growth 1998–2035</i>	<i>Growth Per Year 1998–2035</i>
Route 1A east of I-395	18,140	20,370	22,236	33,070	1,569	2,449	82%	2.57%
Route 1A west of Route 46	16,550	15,220	16,976	30,600	1,569	2,449	85%	2.65%
Route 1A east of Route 46	11,220	11,260	12,116	18,870	1,569	2,449	68%	2.13%
Route 46 south of Route 1A	1,920	1,870	2,021	3,130	265	281	63%	1.97%
Route 46 north of Route 1A	2,270	2,270	3,058	8,570	604	1,167	278%	8.67%
Route 9 east of Route 178	6,440	6,870	7,156	8,730	569	662	36%	1.11%
Route 9 west of Route 46	4,780	5,050	5,129	5,410	604	1,167	13%	0.41%
Route 9 east of Route 46	5,100	5,400	5,830	10,940	879	1,535	115%	3.58%

2035. By 2035, traffic volumes on Route 46 between Routes 1A and 9 are forecasted to increase by approximately 6,300 vehicles.

The projected increases in traffic would lead to more traffic congestion. To help measure the traffic-congestion problem and the quality of traffic flow, the MaineDOT modeled existing (1998 and 2006) and future (2035) design hour volumes (DHVs) of traffic for three roadways in the study area: Routes 1A, 9, and 46. The DHV is the 30th highest hour of travel during a year at a given location; therefore, it accurately reflects the heaviest summer travel congestion. The MaineDOT used the DHVs to determine the volume-to-capacity (v/c) ratio, operating speeds, and overall

level of service (LOS) for the following five roadway segments within the study area: (1) Route 1A east of the I-395 interchange and west of Route 46; (2) Route 1A east of Route 46; (3) Route 46 between Routes 1A and 9; (4) Route 9 east of Route 178 and west of Route 46; and (5) Route 9 east of Route 46.

The MaineDOT estimated the DHV, v/c ratios, LOS, and average travel speed of these roadway segments using peak season 1998 and 2006 travel conditions and forecasted peak season 2035 travel conditions (exhibit S.4). Route 1A east of the I-395 interchange and west of Route 46 is forecasted to decrease in service from LOS E in 1998 to LOS F by 2035. LOS F represents heavily congested flow with traffic demand exceeding

capacity. Route 1A east of Route 46 is forecasted to decrease from LOS D in 1998 to LOS E by 2035. LOS E is defined as traffic flow on two-lane highways having a time delay of greater than 75 percent. Passing under LOS E conditions is virtually impossible. LOS E is seldom attained over extended sections of level terrain on more than a transient condition; most often, small disturbances in traffic flow as LOS E is approached causes a rapid transition to LOS F.

The intersection of Routes 1A and 46 is a signalized intersection. This intersection serves traffic traveling to and from the areas of Downeast Maine and traffic to and from the Ellsworth area and the coast. In 1998, the overall performance of this intersection was estimated using peak-volume conditions at LOS B. By 2035, with increases in traffic volume and corresponding increases in delays, this intersection is forecasted to decline to an overall performance of LOS F. LOS F at a signalized intersection describes a control delay exceeding 80 seconds per vehicle. This LOS occurs when arrival flow rates exceed the capacity of the intersection.

In 1998, the delay on northbound Route 46 to the intersection of Routes 46 and 9 was estimated using peak-volume conditions to be 6.5 seconds (LOS A). By 2035, with increases in traffic volume, this delay is forecasted to increase to 119.4 seconds (LOS F).

Exhibit S.4 – DHV, v/c Ratio, LOS, and Average Travel Speed for Roadways Segments

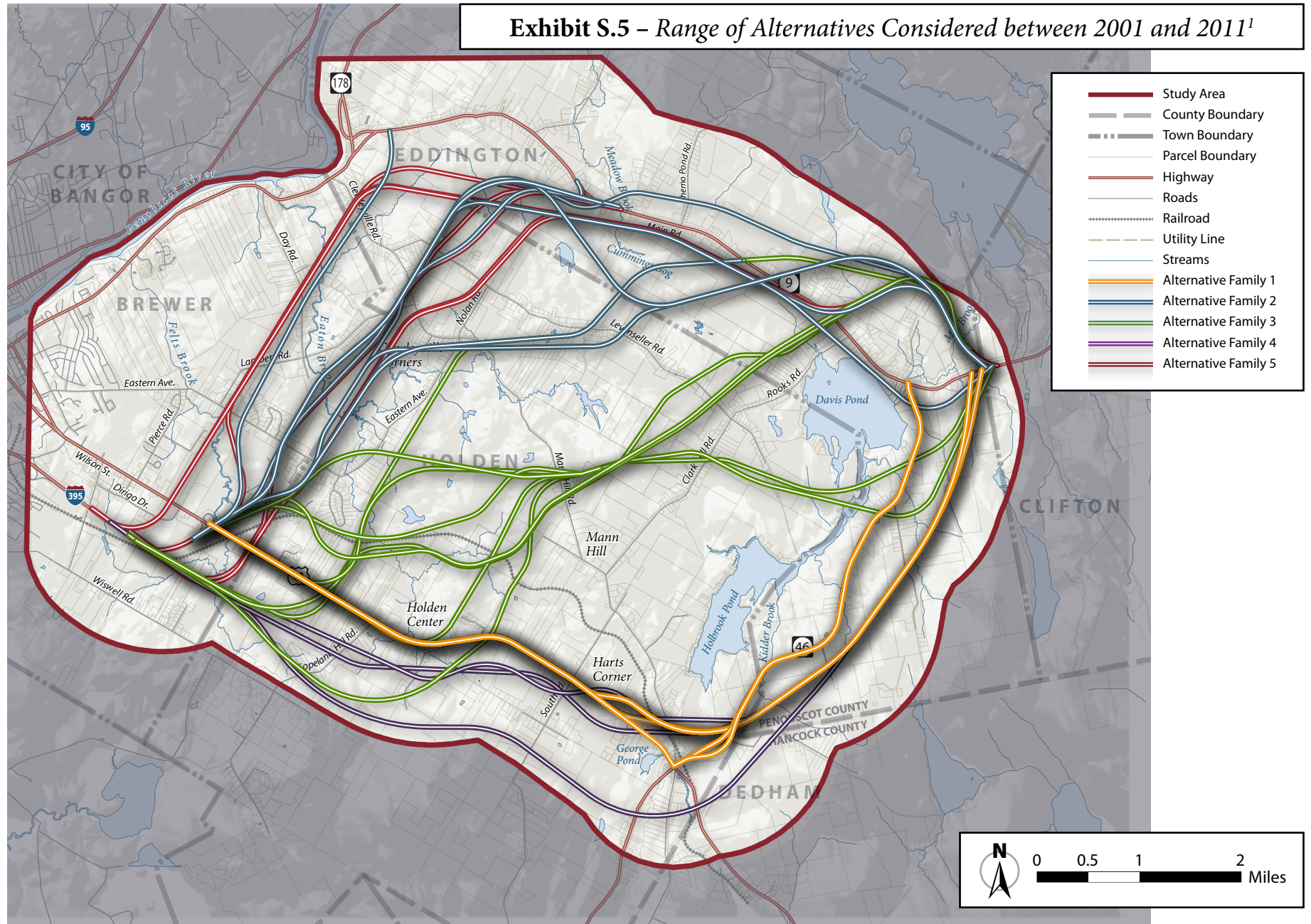
Year	DHV	v/c Ratio	Average Travel Speed (mph)	LOS Rural Two-Lane Road
Route 1A east of I-395				
1998	1,840	0.63	34.6	E
2006	2,001	0.69	33.2	E
2035	3,269	1.12	varies	F
Route 1A east of Route 46				
1998	1,282	0.43	44.1	D
2006	1,268	0.43	44.2	D
2035	2,123	0.72	37.5	E
Route 46 between Routes 1A and 9				
1998	244	0.14	45.1	C
2006	197	0.12	45.6	C
2035	1,006	0.40	40.8	D
Route 9 east of Route 178				
1998	641	0.27	41.2	D
2006	629	0.26	41.3	D
2035	873	0.36	39.5	E
Route 9 east of Route 46				
1998	505	0.20	43.9	D
2006	573	0.23	43.5	D
2035	1,267	0.46	39.3	E

Alternatives

From 2001 to 2010, the MaineDOT and the FHWA conceptually designed and analyzed the No-Build Alternative and more than 70 build alternatives that could potentially satisfy the study purpose and needs and the USACE basic project purpose (exhibit S.5). The build alternatives would be controlled-access

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Exhibit S.5 – Range of Alternatives Considered between 2001 and 2011¹



¹ Note: Alternative alignments shown here have been grouped into families. For a detailed discussion of each family, please refer to Appendix C

highways and were conceptually designed using the MaineDOT design criteria for freeways.

Two lanes would be constructed and used for two-way travel within an approximate 200-foot-wide right-of-way. In designing and analyzing alternatives, the MaineDOT and the FHWA consulted with regulatory and resource agencies at the state and federal level, local officials, special-interest groups, the Public Advisory Committee (PAC), and the public. At the end of the process of identifying, developing, analyzing, and screening alternatives, four alternatives, including the No-Build Alternative, were retained for further consideration and detailed study.

A screening process, undertaken in several stages, was established to systematically consider the wide range of potential alternatives and to identify a reasonable number to be retained for detailed analysis (see Appendix C). The screening analysis considered alternatives that fit into five broad “families”, as follows:

- **Family 1: The Upgrade Alternatives.** Widening and other improvements to Route 1A (from I-395 to Route 46) and Route 46 (from Route 1A to Route 9) approximately 10 miles long. Although one upgrade alternative was initially considered, six upgrade and five partial-upgrade alternatives ultimately were considered.

- **Family 2: The Northern Alternatives.** Alternatives that began at the I-395/Route 1A interchange and generally proceeded in a northerly direction to connect with Route 9. These alternatives were five to 10 miles in length, depending on the distance on Route 9 used as part of the alternative. Twelve alternatives in this family were ultimately studied.
- **Family 3: The Central Alternatives.** Alternatives that began at or near the I-395/Route 1A interchange and generally proceeded east and west through the study area to Route 9 east of Route 46. These alternatives were seven to 11 miles in length, depending on the distance on Route 9 used as part of the alternative. Using all possible combinations of the six western components, the four eastern components, and component 3K, 36 possible central alternatives were initially created. Five other alternatives (for a total of 41) in this family were ultimately developed by modifying some of the initial 36 alternatives.
- **Family 4: The Southern Alternatives.** Alternatives that began near the I-395/Route 1A interchange and that were south of Route 1A and east of Route 46. These alternatives paralleled Routes 1A and 46, and intersected Route 9 in East Eddington. These alternatives were

approximately 11 miles in length. Four alternatives were identified and considered: 4A, 4B, 4C, and 4D.

- **Family 5: Alternatives Paralleling Existing Utility Easements.** Alternatives that began at or near the I-395/Route 9 interchange and proceeded in a northerly direction paralleling the utility easements (to the extent possible) to connect with Route 9 in East Eddington. These alternatives were approximately 11 miles in length. Eight alternatives in this family were ultimately studied.

The No-Build Alternative was fully developed to allow an equal comparison to the build alternatives and was carried through the screening process.

In 2001, the MaineDOT and the FHWA, using results of the preliminary impacts analysis, dismissed from further consideration 37 of the initial 45 alternatives because other alternatives were less environmentally damaging, or it did not meet the purpose or all of the needs of the study. The analysis performed in 2001 retained the alternative from each family with the least adverse impact to the features and resources and resulted in the No-Build Alternative and seven alternatives.

The development of alternatives continued and screening through 2008. New alternatives,

modifications of alternatives, and combinations of alternatives were considered. In 2004, alternatives were identified and developed parallel to the utility easements with the Bangor Hydro-Electric Company transmission lines noted as Family 5. The process of identifying, developing, and screening alternatives or modifying alternatives continued. In January 2008, seven new alternatives, including the No-Build Alternative, were preliminarily identified for further consideration and development and detailed study.

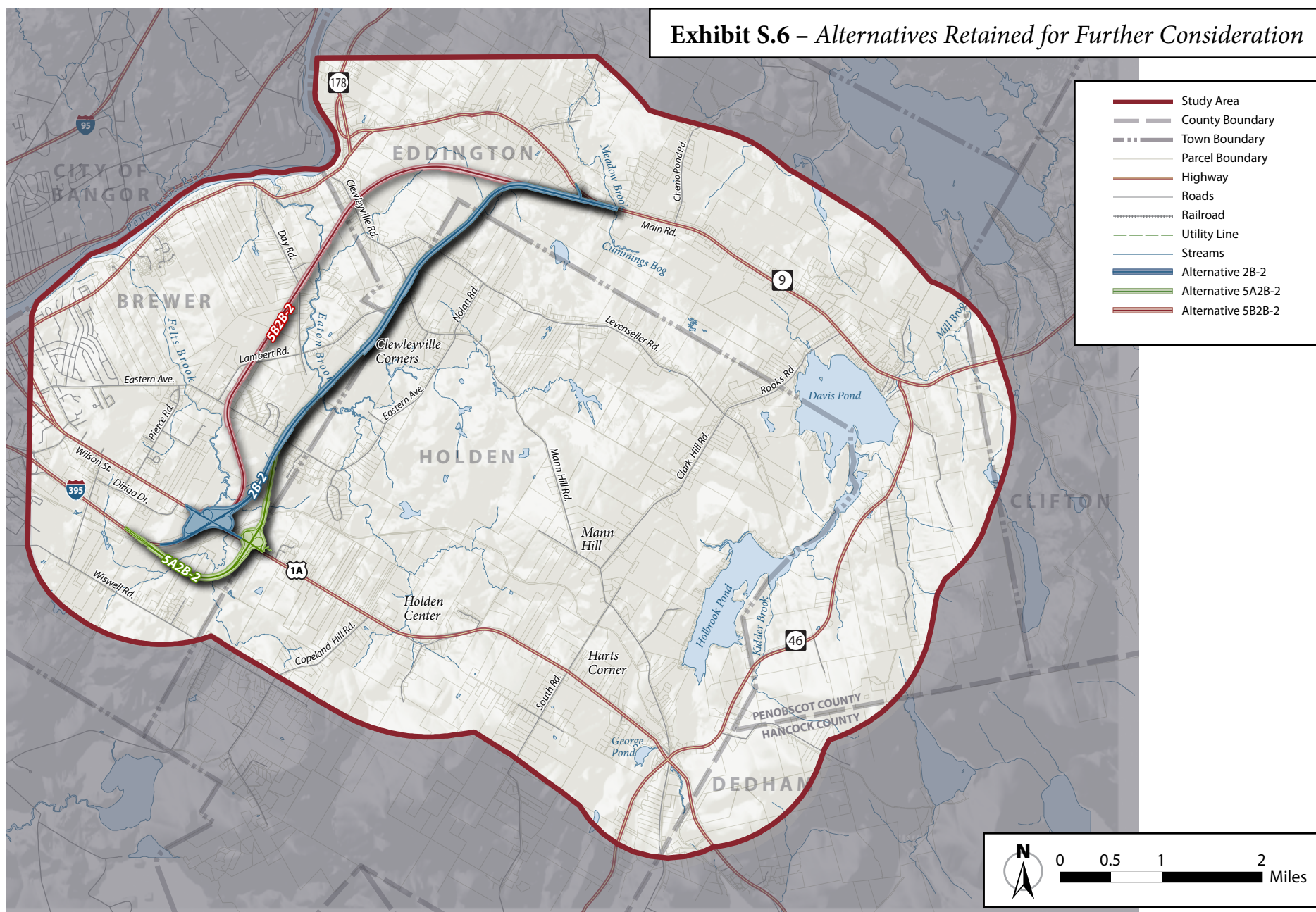
In a continued effort to avoid and minimize adverse impacts in December 2008, six connectors between the three westernmost build alternatives were identified, developed, and analyzed at the beginning of the phase of considering alternatives in detail.

The process of identifying, developing, and screening alternatives or modifying alternatives continued. New alternatives, modifications of alternatives, and combinations of alternatives were considered. In September and December 2010, meetings with the federal cooperating agencies took place, the purpose of which was to solidify the range of alternatives to be considered in detail (see Appendix C in the DEIS).

The following four alternatives were retained for further consideration and detailed study (exhibit S.6):

- No-Build Alternative
- Alternative 2B-2

Exhibit S.6 – Alternatives Retained for Further Consideration



- Alternative 5A2B-2
- Alternative 5B2B-2

The cooperating agencies concurred with this range of alternatives to be retained for detailed analysis.

The No-Build Alternative

The No-Build Alternative proposes that there be no new construction or major reconstruction of the transportation system in the study area; regular maintenance to I-395 and Routes 1A, 46, and 9 would be continued at its present level, and the intersection of Routes 46 and 9 would be improved.

Although the No-Build Alternative does not satisfy the study's purpose and needs or the USACE's basic purpose, it is retained for detailed analysis to allow equal comparison to the build alternatives and to help decision makers understand the ramifications of taking no action. The impacts of the No-Build Alternative were fully developed for design year 2035 to demonstrate the full impact of taking no action. Comparing the build alternatives with the current and future No-Build Alternative is essential for measuring the true benefits and adverse impacts of the build alternatives considered in detail.

Alternative 2B-2

Alternative 2B-2 would continue north from the I-395 interchange with Route 1A, roughly paralleling the Brewer/Holden town line, and connect with Route 9 west of Chemo Pond Road. Route 9 would not be widened to four lanes. The existing I-395/Route 1A interchange would be used (to the extent possible) and expanded to become a semidirectional interchange. A semidirectional interchange reduces left turns and cross traffic; the only traffic movement that would require a left turn would be Route 1A south to Alternative 2B-2 north. The land required for the northern portion of the interchange is owned by the State of Maine.

Alternative 2B-2 would bridge over Felts Brook in two locations at the I-395 interchange. It would pass underneath Eastern Avenue between Woodridge Road and Brian Drive. Alternative 2B-2 would bridge over Eaton Brook, bridge over Lambert Road, pass underneath Mann Hill Road, and bridge over Levenseller Road connecting to Route 9 at a "T" intersection. Route 9 eastbound would be controlled with a stop sign.

Alternative 2B-2 would further the study's purpose and satisfy the system linkage need in the near term. Alternative 2B-2 would be a controlled-access highway and conceptually designed using the MaineDOT design criteria for freeways. Two lanes would be

constructed and used for two-way travel within an approximate 200-foot-wide right-of-way. Route 9 would not be improved, and it would not provide high-speed, limited access connection to the east of East Eddington village. It would satisfy the study need related to traffic congestion and safety. It would satisfy the USACE's basic purpose statement.

Alternative 5A2B-2

Alternative 5A2B-2 would start from I-395 for approximately one mile along the southern side of Route 1A in the town of Holden before turning northward, crossing over Route 1A and paralleling the Bangor Hydro-Electric Company utility easement to connect with Route 9 west of Chemo Pond Road (exhibit S.5). Route 9 would not be widened to four lanes. Alternative 5A2B-2 would connect to Route 1A with a modified diamond interchange, which would provide all traffic movements and require two left turns across traffic. A left-turn lane would be provided on Route 1A to 5A2B-2 north. The modified-diamond interchange design would reduce the amount of property that must be acquired. It would connect to Route 9 at a "T" intersection. Route 9 eastbound would be controlled with a stop sign.

Alternative 5A2B-2 would bridge over Felts Brook in two locations at the I-395 interchange. It would pass underneath Eastern Avenue between Woodridge

Road and Brian Drive. Alternative 5A2B-2 would bridge over Eaton Brook, bridge over Lambert Road, pass underneath Mann Hill Road, and bridge over Levenseller Road connecting to Route 9 at a "T" intersection. Route 9 eastbound would be controlled with a stop sign.

Alternative 5A2B-2 would further the study's purpose and satisfy the system linkage need in the near term. Alternative 5A2B-2 would be a controlled-access highway and conceptually designed using the MaineDOT design criteria for freeways. Two lanes would be constructed and used for two-way travel within an approximate 200-foot-wide right-of-way. Route 9 would not be improved, and it would not provide a high-speed, limited-access connection to the east of East Eddington village. It would satisfy the study need related to traffic congestion and safety. It would satisfy the USACE's basic purpose statement.

Alternative 5B2B-2

Alternative 5B2B-2 would continue north from the I-395 interchange with Route 1A before turning east and connecting with Route 9 west of Chemo Pond Road (exhibit S.5). Route 9 would not be widened to four lanes. The existing I-395/Route 1A interchange would be used (to the extent possible) and expanded to become a semidirectional interchange. The only traffic movement that would require a left turn would

be Route 1A south to Alternative 5B2B-2 north. The land required for the northern portion of the interchange is owned by the State of Maine.

Alternative 5B2B-2 would bridge over Felts Brook in two locations at the I-395 interchange. It would bridge over Eastern Avenue to the immediate east of Lambert Road and bridge over Lambert Road. It would pass under Day Road and Chewleyville Road before turning east and connecting to Route 9 at a “T” intersection. Route 9 eastbound would be controlled with a stop sign.

Alternative 5B2B-2 would further the study’s purpose and satisfy the system linkage need in the near term. Alternative 5B2B-2 would be a controlled-access highway and conceptually designed using the MaineDOT design criteria for freeways. Two lanes would be constructed and used for two-way travel within an approximate 200-foot-wide right-of-way. Route 9 would not be improved, and it would not provide a high-speed, limited-access connection to the east of East Eddington village. It would satisfy the study need related to traffic congestion and safety. It would satisfy the USACE’s basic purpose statement.

Identification of a Preferred Alternative

After careful consideration of the range of alternatives developed in response to the study’s purpose and needs and in coordination with its cooperating and

participating agencies, the MaineDOT and the FHWA identified Alternative 2B-2 as the preferred alternative because they believe it best satisfies the study purpose and needs, would fulfill their statutory mission and responsibilities, and has the least adverse environmental impact.

In identifying Alternative 2B-2 as the preferred alternative, the MaineDOT and the FHWA believe they have identified the environmentally preferable alternative because it best meets the purpose and needs for the study; causes the least damage to the biological and physical environment; and best protects, preserves, and enhances the historic, cultural, and natural resources of the study area.

As part of the review of this EIS, the MaineDOT and the FHWA invite comments on its decision identifying Alternative 2B-2 as its preferred alternative.

The final selection of an alternative will not be made until comments on this draft EIS and from the public hearing have been received and analyzed by the MaineDOT and FHWA, and comments have been received in response to the USACE’s public notice; all reasonable alternatives are under consideration and a decision will be made after the alternatives’ impacts and comments on the draft EIS and from the public hearing have been fully evaluated.

Impacts to the Natural and Social Environment

A study area of approximately 34,416 acres encompassing the range of reasonable alternatives was identified, and a detailed analysis of the natural, social, and economic features of the study area was performed. The study area covers not only the land that would be used for the build alternatives but also the areas that would experience direct, indirect, and cumulative impacts from them.

The No-Build Alternative would adversely impact the study area by failing to reduce traffic backups on Routes 1A, 9, and 46; failing to address safety problems at 10 HCLs; and negatively impacting the community character of Brewer, Holden, and Eddington by not reducing heavy traffic in the study area. Traffic congestion in the study area is projected to worsen under the No-Build Alternative.

From a broad perspective, the build alternatives retained for further consideration are quite similar. They would begin in the same area of I-395 and Route 1A near the Brewer/Holden town line, carry traffic north, and connect with Route 9 in Eddington. The build alternatives would have considerable beneficial impacts to the study area and region. Each alternative would have similar positive impacts to mobility and congestion on Routes 1A, 9, and 46. The build

alternatives would have the added benefit of improving safety throughout the study area and region.

Although the majority of the potential adverse impacts from the build alternatives are similar at a high level, a few distinct differences exist (exhibits S.7, S.8, and S.9).

The build alternatives would not impact the physical geography; climate; geological resources; significant sand and gravel aquifers; wild and scenic rivers; essential habitat; tribal trust lands; sites containing uncontrolled petroleum and hazardous wastes; historic resources; archaeological resources; and traditional cultural properties. Section 4(f) states that publicly owned parks, recreation lands, wildlife and waterfowl refuge areas, or historic sites of national, state, or local significance may not be used for USDOT funded projects unless there is no feasible and prudent alternative to the use of such land and such projects include all possible planning to minimize harm to these lands. The build alternatives would not impact public parks or recreation lands or other lands or facilities afforded consideration and protection under Section 4(f) of the USDOT Act of 1966.

Estimated Construction Costs

The estimated construction costs of alternatives include the costs of preliminary engineering, construction engineering, utility relocation, acquisition

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Exhibit S.7 – Direct Impacts of Alternatives

Alternatives	Physical and Biological															Land Use				
	Wetlands (acres) Roadway contaminants within 100 feet ¹ (acres) Roadway contaminants within 160 feet ² (acres)			Streams				Floodplains (acres) Vernal pools ³ /dispersal habitat (acres) Waterfowl and wading bird habitat ⁴ (acres) Deer-wintering areas (acres) Endangered Species Vegetation (acres) Undeveloped habitat Area to be acquired (acres)							Historic Properties 4 (f) Properties Residential displacements ⁵ Business displacements ⁶ Business impacts ⁷					
				Bridges and culverts/feet	Roadway contaminants within 100 feet ¹ (acres)	Roadway contaminants within 160 feet ² (acres)	Sediments within 3,300 feet ² (acres)													
No-Build	-	17	64	-	0.3 ac. (17,000 sq. ft.)	0.7 ac. (29,000 sq. ft.)	12 ac.	-	-	-	-	-	-	-	-	-	-	-	-	-
2B-2/the Preferred Alternative	26	31	66	5 bridges 3 culverts/ 554 feet	0.9 ac. (39,100 sq. ft.)	1.8 ac. (78,300 sq. ft.)	13 ac.	10	1/15	9 acres along Eaton Brook and its tributaries	-	Yes	102	Eliminates two blocks; fragments three blocks	163	No	No	8	-	Eastern Maine Healthcare parking lot – 130 parking spaces (20 percent)
5A2B-2	31	34	71	5 bridges 3 culverts/ 567 feet	0.6 ac. (24,300 sq. ft.)	1.5 ac. (63,000 sq. ft.)	18 ac.	2	1/23	20 acres along Felts Brook and 9 acres along Eaton Brook	-	Yes	136	Eliminates two blocks; fragments four blocks	215	No	No	15	Brewer Fence Company, Eden Pure Heaters, Mitchell's Landscaping and Garden Center, Town 'N Country Apartments	-
5B2B-2	32	30	80	6 bridges 1 culvert/ 222 feet	1.0 ac. (43,700 sq. ft.)	2 ac. (90,000 sq. ft)	17 ac.	11	1/6	3 acres along a tributary to Eaton Brook 3 acres along a tributary to Eaton Brook	Yes	102	Fragments four blocks	186	No	No	6	Bangor Hydro-Electric Co. Building, Maritimes and Northeast Pipeline Compressor Station	Eastern Maine Healthcare parking lot – 130 parking spaces (20 percent)	

Notes:

Primary road contaminants are salt and lead.

No-Build Alternative consisted of Route 1A from I-395 to Route 46, and Route 46 from Route 1A to Route 9.

¹Source: USACE New England District, "Compensatory Mitigation Guidance", 2010.

²Source: Maine Audubon Society, "Conserving Wildlife On and Around Maine's Roads", 2007.

³All vernal pools are insignificant.

⁴Upland habitat within 250 ft.

⁵The taking of a residence

⁶The taking of a business

⁷An impact to the business without the taking of the business

Exhibit S.8 – Indirect Impacts of Alternatives

Resources		Distances (feet)		Alternative Indirect Impacts (acres)							
		Upslope/ Upwind	Downslope/ Downwind	No-Build Alternative ³ Upslope	No-Build Alternative ³ Downslope	2B-2/the Preferred Alternative Upslope	2B-2/the Preferred Alternative Downslope	5A2B-2 Upslope	5A2B-2 Downslope	5B2B-2 Upslope	5B2B-2 Downslope
Soils		Erosion could affect water quality in surface waters.									
Surface Waters	Contaminants	160 ¹		0.7		1.8		1.5		2.0	
	Sediments	0 ¹	3,300 ¹	12		0	13	0	18	0	17
Groundwater		No indirect impacts									
Aquatic Habitat and Fisheries		160 ¹		0.7		1.8		1.5		2	
Vernal Pools	Area	250 ²		54		17		25		8	
	Percent Forested			46%		60%		78%		83%	
	Area	750 ²		480		278		395		146	
	Percent Forested			53%		63%		59%		69%	
Floodplains		0	100 ⁴	0	1	0	11	0	5	0	15
		160 ¹		4		22		8		28	
Wetlands		0	100 ⁴	0	17	0	31	0	34	0	30
		160 ¹		64		66		71		80	
Vegetation	Contaminants	160 ¹		164		232		252		202	
	Nitrogen enrichment and altered vegetation	160 ¹	330 ¹	95	187	88	292	92	312	116	240
	Invasive species	660 ¹	3,300 ¹	753	3,920	329	4,407	398	4,346	498	2,944
Wildlife	Large mammals	160 ¹	330 ¹	0	0	74	128	69	173	89	103
	Grassland birds	330 ¹	660 ¹	0	80	146	250	136	334	178	204
	IWWH	0	100 ⁴	0	2	0	10	0	19	0	4
Wildlife Habitat		660 ¹	3,300 ¹	84	2,189	278	1,416	255	1,669	423	893

Notes:¹Source: Maine Audubon Society, "Conserving Wildlife On and Around Maine's Roads", 2007.²Source: USACE, New England District, "Compensatory Mitigation Guidance", 2010.³No-Build Alternative consisted of Route 1A from I-395 to Route 46, and Route 46 from Route 1A to Route 9.⁴USEPA, 2010

Exhibit S.9 – Cumulative Effects for the Build Alternatives

Alternative	Surface Waters	Floodplains (acres)	Wetlands (acres)	Forest Vegetation (acres)	Wildlife Habitat (acres)
2B-2/the Preferred Alternative	4,900 feet of streams; unknown impacts from stormwater runoff.	26	182	602	873
5A2B-2	5,000 feet of streams; unknown impacts from stormwater runoff.	18	187	636	924
5B2B-2	4,800 feet of streams; unknown impacts from stormwater runoff.	27	188	602	556

of property for right-of-way, and mitigating environmental impacts. The costs of the build alternatives would range between approximately \$61 million and \$81 million (in 2011 dollars).

Areas of Controversy

The Interstate 395/ Route 9 transportation study has attracted substantial local interest since the beginning of the scoping process for the Environmental Assessment (EA) in 2000. On October 11, 2005, the I-395/Route 9 transportation study was elevated to an EIS by the FHWA because of the potential impacts to wetlands, unfragmented habitat, and the potential difficulty in compensating for those impacts.

Issues to Be Resolved

There are two primary issues to be resolved. The first is the MaineDOT must obtain a Section 404 permit from the USACE; the second is MaineDOT

would need to work with the affected municipalities to develop a corridor-preservation plan to protect the selected corridor from further development.

Section 404 of the CWA regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Section 404 requires a permit from the USACE before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from regulation (e.g., certain farming and forestry activities). The Section 404(b) (1) guidelines provide guidance to the USACE for issuing permits; compliance with the Section 404(b) (1) guidelines is required for the issuance of a permit. The Section 404(b)(1) guidelines require the selection of the Least Environmentally Damaging Practicable Alternative (LEDPA). Critical to the selection of the LEDPA is the recognition of the full range of alternatives and impacts in determining which alternatives are (1) practicable and (2) environmentally less

damaging. The USACE identifies the LEDPA following its review of the permit application and completion of its public-interest finding.

The MaineDOT and the FHWA prepared a permit application in accordance with Section 404 of the CWA for the range of alternatives retained for further consideration, and it was submitted to the USACE. The USACE must identify a LEDPA. A mitigation plan for impacts to waters of the U.S. would be developed during final design.

This Environmental Impact Statement/Section 404 Permit Application Supporting Information is first circulated publicly as a Draft Environmental Impact Statement (DEIS). Following publication of the DEIS, a public hearing would be held to solicit additional public input to the federal decision-making process. Additional public input would be accepted during a minimum 45-day open public-comment period following publication of the DEIS/Section 404 Permit Application Supporting Information.

If a build alternative is selected for construction, the MaineDOT would work with the affected municipalities to develop a corridor-preservation plan to protect the selected corridor from further development. Methods to protect the corridor include development of zoning and local ordinances and selective acquisition of properties as they become available for sale or for further development. The MaineDOT may fund

these property acquisitions through its customary programming of state and federal highway-funding mechanisms. Property acquisitions and residential or business relocations would be in accordance with state and federal laws dictating the acquisition of property for highway purposes. However, future development along Route 9 in the study area can impact future traffic flow and the overall benefits of the project.

Once the MaineDOT has a system in place to protect the selected corridor, it would work with regional interests to develop support for a funding plan. In recent years, many states have found that state highway funds, bonding, and federal core apportionments are needed to maintain the system as it exists, with little remaining in additional funds for new capacity projects. Therefore, the MaineDOT would devise funding strategies for property acquisition and, ultimately, construction of the selected build alternative. If the No-Build Alternative is selected, the MaineDOT would continue to work with local and regional authorities to maintain—to the extent possible—the safety and efficiency of Routes 1A, 9, and 46 in Brewer, Holden, and Eddington.

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